

December 2008 Update  
**Whitewood Creek Superfund Site**  
Whitewood, SD  
(Five-Year Review Date: 9/27/2007)

## ***H**ighlights Since the 2007 Five-Year Review*

- **Homestake verifies new developments outside of Tailings Impacted Areas**
- **Final property inspections underway**
- **Residential arsenic results fall under action levels**

**Brief Site History:** The Whitewood Creek Site consists of an 18-mile stretch of Whitewood Creek, from the Crook City Bridge to the confluence with the Belle Fourche river. Since the 1870s, millions of tons of toxic tailings were deposited along the creek in Lawrence, Meade and Butte counties. Local residents use the creek for irrigation, watering livestock and recreation. About 280 people live within a mile of the Site. Groundwater, surface water and/or soils contain heavy metals including arsenic, cadmium, copper, silver, mercury and/or cyanide. Arsenic is the contaminant of greatest concern. Exposure to high levels of arsenic may increase the risk of skin cancer, neurological effects and vascular disease. The potentially responsible party is Homestake Mining Company. On September 8, 1983 the EPA placed the Whitewood Creek area on its Superfund National Priorities List (NPL).

**Cleanup Activities Completed:** The following removal and remedial activities were completed by 1994:

- Removal and replacement of 4,500 cubic yards of contaminated soil from 16 residential yards and disposal of contaminated soils in a landfill constructed in an undeveloped part of the Site.
- Continuation of Whitewood Creek surface-water monitoring.

The following institutional controls have been established:

- Zoning regulations to prohibit development in tailings-deposit areas.
- Continuation of ban on water wells in the 100-year flood plain.
- Development of an educational program to inform residents about the EPA remedy.

**Current Status:** EPA issued a Record of Decision in March 1990. Remediation activities were completed during the fall of 1992. Construction of the disposal site was completed on September 30, 1992. The second five-year review for Whitewood Creek was held September 27, 2007. EPA solicited public comments and notices were placed in the local newspaper notifying the community when the five-year review was in process.

**Summary of Protectiveness:** The Site is managed as a single Operable Unit, however, the remedy has been implemented in two phases. Phase I included remediation of contaminated soils in residential areas and was completed and certified by the EPA on March 31, 1993. Phase II consisted of implementation of institutional controls to limit access to tailings and groundwater and was completed and certified by the EPA on February 13, 1995.

**Issues Impacting Protectiveness:** A few issues that do not immediately impact the protectiveness of the remedy were noted. The following table summarizes the status of the follow-up actions addressing these issues.

**Whitewood Creek Superfund Site  
Five-Year Review Update Table  
(Review Date: 9/27/2007)**

Issues	Recommendations Follow-up Actions	Follow-up Actions (Status/Due Date)	Status of Follow-up Actions 12/08	Responsible Party
1) During the July 2007 site inspections, five properties were identified where erosion of the remedial cover has occurred. Additionally, new garden plots were identified at one property that may be within the Tailings Impacted Area.	Repair remedial cover at the five properties where erosion was identified during the property inspections and follow-up on new garden plots on Alan property.		COMPLETE  7/12/2008.	Homestake
2) There are 2 properties within the Site that still need to be inspected.	Make arrangements to inspect Swanson and Crowser properties.	Swanson property inspected satisfactorily and arrangements are being made to soil sample the Crowser	6/30/09	Homestake

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		property. A report to be submitted to EPA when completed.		
<b>3) Results from the 2001 residential sampling events are not conclusive.</b>	Follow up on 2001 soil sampling events.	Homestake provided results indicating arsenic concentrations below the action level.	DONE  10/31/2007	Homestake
<b>4) Disposal Cell revegetation efforts have not been fully successful, and the state of the vegetative cover has not been adequately reported on in the Annual Reports.</b>	Resume efforts to revegetate the Disposal Cell and include site conditions in annual reports.		COMPLETE	Homestake
<b>5) Homestake is to continue its O&amp;M activity of annual visits to the properties within the Site to check for both authorized and unauthorized developments.</b>	Annual visits to the properties within the Site to check for new developments.		Ongoing	Homestake
<b>6) Homestake Mining has not provided updated maps of all the properties affected by the County Ordinances restricting developments within the Site boundaries.</b>	Prepare updated maps of all properties affected by county ordinances. Distribute to property owners, county officials, and USEPA		COMPLETE  8/31/2008	Homestake
<b>7) Neither Butte nor Lawrence Counties issue occupancy permits, as required by the Guide to Building in</b>	Strengthen institutional controls as they relate to development and		ONGOING	Homestake and Butte, Lawrence and Meade counties

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the Whitewood Creek Tailings Area.	occupancy permits.			
8) There has been no follow-up, as recommended in the previous five-year review, on properties that are located, or are possibly located, within the Tailings Impacted Areas.	Follow up with property owners where development was reported to have occurred.	Homestake followed up with all affected property owners and verified developments are outside of the Tailings Impacted Areas.	COMPLETE 10/31/2008	Homestake and Butte, Lawrence and Meade counties
9) The contact/mailing list currently used by Homestake for the annual educational mailings is not current and accurate. There are instances of omissions as well as incomplete/incorrect contact information.	Modify mailing list to include all residents affected by Site and update list with current contacts.		COMPLETE	Homestake
10) Residential maps for all the remediated properties were not available at the time of this review.	Distribute updated maps to all property owners affected by the Site.		COMPLETE 8/31/2008	Homestake
11) It was suggested by Homestake, and the idea is supported by USEPA, to tailor the mailings to those with in the Site and to those who may be affected but are not located within the Site delineated boundaries.	Tailor educational material to property owners' situations/ amount they are affected by Site.		NO PROGRESS	Homestake